

Appl. No. 10/722,004
Amdt. dated July 10, 2006
Reply to Office action of March 9, 2006

REMARKS

This Response and Amendment is filed in response to the Office Action dated March 9, 2006. Applicant cancels claims 1-20 and adds claims 21-47 such claims 21-47 are pending in this application. Applicant respectfully requests allowance of all the pending claims.

In the Office action, claims 1-2, 4-6, 8-13 and 16-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,535,699 (Buhler), U.S. Patent No. 6,314,650 (Flab), and U.S. Patent No. 4,904,081 (Miyahara); claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Buhler, Flab, Miyahara, and further in view of U.S. Patent No. 5,513,884 (Beni et al.); and claims 7, 14 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Buhler, Flab, Miyahara, and further in view of U.S. Patent No. 3,750,299 (Plasser et al.).

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In re Vaeck, 947 F.2d 488, 493, 20 U.S.P.Q. 2d 1438, 1442 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. Id. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 985, 180 U.S.P.Q. 580, 583 (CCPA 1974); MPEP §§706.02(j), 2143.03.

New independent claim 21 recites a laser survey device for performing a runway survey on a rail system. The laser survey device includes a laser unit, including a laser, mounted on a rail of the rail system, and a self-propelled survey car supported on the rail for movement relative to the laser. The survey car includes a mounting structure movable between a first position in which the mounting structure is positionable proximate the rail and a second position in which the mounting structure engages the rail to mount the survey car to the rail. The survey car also includes a drive mechanism to move the survey car along the rail relative to the laser and an image acquisition device. The laser emits a laser beam that projects a laser spot on the image acquisition device and the image acquisition device captures an image of the laser spot.

The cited prior art, alone or in combination, does not teach or suggest the subject matter defined by new independent claim 21. For example, the cited prior art does not teach or suggest a survey car supported on the rail for movement relative to the laser. Nor does the cited prior art teach or suggest a survey car including a mounting structure movable between a first position in

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which the mounting structure is positionable proximate the rail and a second position in which the mounting structure engages the rail to mount the survey car to the rail. Accordingly, independent claim 21 is allowable. Dependent claims 22-35 depend from independent claim 21 and are allowable for the same and other reasons.

New independent claim 36 recites a method for performing a runway survey on a rail system. The method includes mounting a laser unit having a self-leveling laser on the rail system; adjusting a level position of the laser using the signal generated by the level sensor; supporting a survey car on the rail system for movement along the rail system relative to the laser, the survey car including an image acquisition device and an encoder connected to a shaft of the survey car wherein movement of the shaft is representative of movement of the survey car relative to the laser; projecting a laser spot on the image acquisition device by emitting a laser beam from the laser when the laser is substantially level; capturing an image of the laser spot using the image acquisition device wherein the encoder triggers the image acquisition device to capture the image of the laser spot based upon a position of the survey car on the rail system relative to the laser; and analyzing the captured images to determine positioning of the rail system.

The cited prior art, alone or in combination, does not teach or suggest the subject matter defined by new independent claim 36. The cited prior art does not teach or suggest at least the survey car including an encoder connected to a shaft of the survey car wherein movement of the shaft is representative of movement of the survey car relative to the laser whereby the encoder triggers the image acquisition device to capture the image of the laser spot based upon a position of the survey car on the rail system relative to the laser. Accordingly, independent claim 36 is allowable. Dependent claims 37-44 depend from independent claim 36 and are allowable for the same and other reasons.

New independent claim 45 recites a method of performing a runway survey on a rail system, the method including mounting a laser unit, including a laser, on the rail system; supporting a survey car on the rail system for movement along the rail system relative to the laser, the survey car including a screen and an image capturing device positioned to obtain an image of the screen; emitting a laser beam from the laser, the laser beam projecting a laser spot on the screen; capturing an image of the screen using the image capturing device, the image of the screen including an image of the laser spot; transmitting the captured image to a computer;

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analyzing the captured image to determine a center point of the captured image, the center point having an X dimension and a Y dimension; comparing the X and Y dimensions of the center point with a datum point; and calculating a deviation of the center point with respect to the datum point to determine whether adjustment of the rail system position is necessary.

The cited prior art, alone or in combination, does not teach or suggest the subject matter defined by new independent claim 45. For example, the cited prior art does not teach or suggest analyzing the captured image to determine whether adjustment of the rail system position is necessary that at least includes determining a center point of the captured image, assigning an X dimension and a Y dimension to the center point, comparing the X and Y dimension of the center point with a datum point, and calculating a deviation of the center point with respect to the datum point. Accordingly, independent claim 45 is allowable. Dependent claims 46 and 47 depend from independent claim 45 and are allowable for the same and other reasons.

Applicant notes the Examiner's official notice related to centroid measurement, which is recited in dependent claims 39 and 46. Although Applicant does not address the official notice argument in this response, Applicant does not concede this argument.

In view of the amendments presented herein, Applicant believes that the claims as filed are in condition for allowance and respectfully requests a timely Notice of Allowance be issued for this case. Applicant kindly requests that the Examiner telephone the attorney of record in the event a telephone discussion would be helpful in advancing the prosecution of the present application.

Respectfully submitted,



Gayle A. Bush
Reg. No. 52,677

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Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Suite 3300
Milwaukee, Wisconsin 53202-4108
414.271.6560